

# Medicalization: A historical perspective

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## Abstract

The spectrum of human condition is bell shaped, and an area around the midpoint has been chosen arbitrarily to define as the norm. Physically and mentally maladaptive outliers have been treated as diseases and fell into the realm of medicine. Many “non-disease” states can creep up into medicine and with time become medicalized through medicalization because of redefining many conditions long considered social or psychological phenomena as disease states. Processes regarded as natural but also maladaptive are now looked at as diseases. Major factors in the evolution of medicalization include wellness obsession, pharmaceutical industry, statistical and research saturation, media, Internet, and litigation. Unnecessary medicalization leads to huge social and financial cost as well as increased anxiety and risk for complication from further workups for incidental or clinically unimportant findings. In this special article, our concrete steps are provided to facilitate demedicalization based on professionalism of physicians.

## KEYWORDS

disability, disease, genomics, medicalization, public health

## 1 | INTRODUCTION

An introductory short case study: A 53-year-old man presented with a 2 years history of anxiety after one of his children accidentally died. One year ago, he visited his nearby clinic where extensive laboratory and imaging tests identified liver dysfunction and fatty liver, for which ursodeoxycholic acid was prescribed. A drug company representative visited this clinic and recommended the use of metformin as additional medication for fatty liver based on the recent clinical research results, and thus, the patient also received metformin. Six months ago, the patient conducted an Internet search and identified an herbal supplement. After he took the supplement and developed obvious drug reaction, he requested to be referred to another clinic as his new primary care provider. The supplement was discontinued swiftly. Detailed medical interview and physical examination was performed, revealing posttraumatic stress disorder and alcoholic liver dysfunction. The new primary care physician provided cognitive behavioral therapy along with motivational interviewing about alcohol cessation

and regular exercise to the patient. After receiving these interventions, his conditions became improved and he finished the regular visits to clinics and currently is free from medications and supplements. Most doctors in Japan have not been prepared for conducting cognitive behavioral therapy and motivational interviewing because of poor skills, low incentives, and few opportunities. However, learning resources and opportunities now become available to Japanese doctors, including videos, case conferences, or workshops. Many more doctors in Japan should learn skills for cognitive behavioral therapy and motivational interviewing as a nonmedical measure for improving patient outcomes.

Rising health costs are facing countries worldwide. Advances in medical technology and pharmacotherapy and the burden of diseases from an aging population and unhealthy lifestyles are largely responsible. Considerable research has focused on more effective health care.<sup>1</sup> Nearly two millennia passed until the advent of the contagion and germ theory.<sup>2,3</sup> Pathophysiology and therapeutics advanced from an era of pure concepts to an evidence basis. Major advances followed in

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genetics, immunology, and oncology such that it looked like medicine were going to make us live longer and healthier lives.

The World Health Organization (WHO) indicates that over billion people globally experience disability, including people with hearing or vision loss and those with a need for wheelchair. The WHO also states that making all healthcare services accessible to people with disabilities is achievable and will reduce unacceptable health disparities.

There remained, however, a myriad other conditions (eg, depression, asthenia, anxiety, or stress) that compromised our well-being and possibly shortened our lives. Our understanding of these “functional” disorders is lagging behind, partly because of limited knowledge of their pathophysiology and more importantly because of the lack of clear definitions and confusion about what makes a particular condition a distinct nosological entity.

A disease is any condition that impairs normal function. While illness and sickness may be synonymous, they often refer specifically to the patient’s personal experience of his/her disease. Thus, it is possible for a person to be diseased (eg, occult cancer) without being ill and to be ill without being diseased (eg, hypochondriasis), such as when one perceives a normal experience as a medical condition or medicalizes a nondisease situation. Sickness behavior can include lethargy, anorexia, insomnia, hyperalgesia, and the inability to concentrate. A particularly vexing area is the intricate interplay between extreme stress and physical disorders (eg, posttraumatic stress disorder). When no etiology is available, hypothetical considerations can still drive therapy. However, this is possible as long as the entities in question are well defined and therefore lend themselves to scientific research.

Nonetheless, a paradigm shift in thinking has culminated in redefining many conditions long considered social or psychological phenomena as disease states. Furthermore, processes that were regarded as natural but also maladaptive are now looked at as diseases. Thus, disease has become a social construct, not merely a physical one. Such diverse conditions as shyness, andropause, chronic fatigue syndrome, job failure, inattention, marital discord, fibromyalgia, or binge eating disorder have become medical disorders with all their implications.

One question begs an answer: Are we redefining social norms? First, the spectrum of the human condition is bell shaped. We have chosen arbitrarily to define an area around the midpoint as the norm. Physically maladaptive outliers are treated as diseases and fall into the realm of medicine. Second, human life follows a unidirectional course from birth to death. In Japanese tradition, the *Roosui*, natural death, was used to indicate a cause for death among frail elderly as natural phenomenon, but recent death certificates seem to avoid the use of this traditional term. At each age, certain physical and social attributes are accepted as being normal that may be unacceptable at a different one. Third, people are born with varying degrees of potential regardless of the scale being used to measure performance. Finally, well-being and success are concepts that have strong societal elements and should not be forcibly pigeon-holed into specific cultural constraints. While there is definite commonality between different civilizations as to what constitutes physical health, this breaks down with such issues as behavior, happiness, and success.

Thus, are we describing disease in the conventional sense or are we creating descriptive entities that will help us understand better certain social phenomena that fall outside the norms of human well-being? Disease is defined by medicine based on a set of symptoms, signs, and findings that lend themselves to scientific investigation. What about conditions that are loosely defined using semiquantitative measures often impossible to duplicate across various individuals? Are these diseases or descriptions of outliers? Loosening the grip so much can open up such a field that many “nondisease” states can creep up into medicine and with time become medicalized.<sup>4</sup>

## 2 | FACTORS IN THE EVOLUTION OF MEDICALIZATION

### 2.1 | Wellness obsession

We are inundated by images of perfect bodies, advice on how to stay healthy, and advertisements about products that are supposed to promote well-being. It is no wonder then that the public assigns the role of sickness to any condition that deviates from that alleged norm. Social concepts often translate into models of normalcy. This did not mean to minimize the proven health benefits of regular exercise, weight control, and other general measure aimed at a life of well-being. However, it is another thing altogether to assume that failure to emulate that model turns us into sick abnormal people. There is a real problem in assuming the human body to be a perfect machine such that any imperfection is misconstrued as an illness to be fixed by a pill. Human dock in Japan is an example for this. Because of the chance occurrence as statistical phenomenon, hundreds of testing in yearly “human dock” for each Japanese person will lead to labeling a diseased condition for all with psychological anxiety.

### 2.2 | Pharmaceutical industry

The positive contributions of the pharmaceutical industry to the overall improvement of patient care cannot be ignored. Many of the major advances in medications would have never seen the light of day but for the research it sponsors. However, the pharmaceutical industry stands to benefit from the medicalization movement and therefore has been one of the main driving forces behind it. Pharmaceutical companies support research to prove that their medications work in “treating” these “conditions” and alleviating the suffering they inflict.

One look at any medical journal proves this point. Under authors’ disclosures, one often finds contributions from the same companies whose products constitute the subject of the research. In that respect, positive studies are highly desirable but even negative ones are welcome as long as the disorder being studied retains the designation of a medical condition because it will stimulate more research and prompts further publications. Commercial advertisements are paid for by the drug manufacturers and often star either well-known celebrities or actual physicians who may or may not have been involved in the research and whose presence heightens credibility.

Equally alarming is the increasing tendency for off-label use. While well-defined disorders may frustrate attempts to promote off-label use because of the difficulty in proving superiority to standard drugs, medicalized conditions offer a unique opportunity because of soft endpoints and absence of benchmarks. Thus, the market for a certain product can potentially expand up to the limit of the ingenuity of its manufacturers. Further, some drug companies have found in the process of medicalization a way to resurrect previously failed products and recover their costs.<sup>5</sup>

Numbers impress in proportion to their extent and their complexity. A topic search is likely to yield numerous published studies in support of any number of claims. Alarming is the fact that drug companies fund many of these studies and the articles they spin off are peer reviewed and therefore allegedly credible. What one needs to do, however, is not simply accept their conclusions but also question their needs and the motives behind them wondering whether such voluminous research is likely to lead to any tangible health benefits.

A recent scandal about data manipulation for clinical trials of two different angiotensin II receptor antagonists, valsartan and candesartan, showed involvement with an employee in Japan branch of Novartis and Takeda companies. They advised that clinical trials of these drugs showed better clinical outcomes beyond their blood pressure-lowering effects, and a huge number of physicians followed their advices and it certainly cost massively for prescribing these medications.

## 2.3 | Statistical saturation

Statistical saturation augments the trend toward medicalization. The complexity of statistics can be overwhelming. Statisticians have invented ever more involved methods of looking at data, which may allow for manipulation. Peer reviewers, not statisticians themselves, may glance over these calculations but not analyze them critically. Thus, if a paper is written in a convincing manner and the numbers are supportive, then it is assumed that the conclusions are sound.

Of all the common statistical parameters, NNT (number needed to treat or test) or NNH (number needed to harm) are the most reliable but quite often least reported. Instead, undue weight is given to the relative risk reduction, which is useful in a common condition but meaningless in a rare one. Using NNT reduces many claims to pure nonsense. Data can be presented to exaggerate benefit and downplay harm or *vice versa* without any falsification and while staying within the bounds of legality.<sup>6</sup>

Human beings tend toward optimism (confirmation bias) looking for the good side of an event. Naturally, one looks at the one statistic that demonstrates significance and ignores less impressive parameters. Other instances of manipulation may not be so innocent. Sponsors need positive results to justify their expenses and improve balance sheets. Because of fluid definitions and soft endpoints, medicalized conditions lend themselves particularly well to such practices.

## 2.4 | Role of the media and internet

A large proportion of prime-time television shows revolve around medical issues. Some serve to educate the public while others, often

utilizing factual data, follow a fictional plot for pure entertainment. The danger lies, however, in the vulnerability of the public. The latter is enslaved further by talk shows that host medical experts, some of whom have a sterling reputation but not others. Because they are doctors with impressive titles and because they speak *medicalese*, audiences listen and believe. There is no law against making unsubstantiated claims on television; only one's own conscience prevails.

Up to 60% of Americans obtain medical information from the Internet, and nearly a quarter of all Internet content deals with medical issues.<sup>7</sup> There are minimal regulations governing what one puts out in cyberspace. Inundated by so much medical material that often appeals to our interests and deep fear of infirmity, we tend to accept claims at face value. Therefore, all these medicalized conditions assume clinical equipoise with more traditional diseases.

## 2.5 | Research saturation

There are currently more than 23 000 journals cited by PubMed.<sup>8</sup> Corporate sponsors are willing to flash their checkbooks to journals because the latter are the ultimate source of legitimization. Researchers are in constant need to publish studies to maintain academic posts and potential funding. The immense pressure imposed on academicians to publish original work forces them to look for ideas in odd places. Medicalized conditions offer a virgin territory for such work.

## 2.6 | Role of litigation

The number of medically related lawsuits is alarming. Disorders with loose diagnostic criteria provide a fertile ground for lawsuits. Ingenious attorneys will find willing "expert" witnesses from the medical profession who have their own vested interests in promoting dubious diagnoses. The legal "industry" fosters medicalization and supports it indirectly. Defensive medicine prevails and extensive cost is consumed by ordering unnecessary tests, including "routine" CT scans for patients with nonspecific abdominal pain and routine brain MRI scans for patients with benign paroxysmal positional vertigo.

# 3 | DISCUSSION

As societies moved from hunter-gatherer to an agricultural base and eventually to urban life, disease evolved a maladaptive social dimension. Treatment was therefore aimed at not only curing the body but also providing a sense of well-being and restoring social status. In the modern sense, wellness encompasses a wide range of physical and psychosocial issues, many of which are traditionally viewed as part of the spectrum of normalcy. For example, many diseases increase with age, but aging by itself is not a disease. Medicalization of aging can lead to more harm than benefit to the elderly population.<sup>9</sup> Similarly, there are great variations in individual social skills. Yet, all of them are normal. We will all age, that some of us are better skilled socially, that some individuals are smarter than others, and so on. To look at these conditions as diseases serves no purpose other than escalating

healthcare costs. To facilitate demedicalization, certain steps have to be taken:

1. Resolve the conflicts of interest that underpin much of medicalization.
2. Create neutral regulators who approve or reject research proposals independent of industry sponsors, lobbyists, and advocacy groups.
3. Promote full independence of editorial and peer reviewers from the private sector when passing or failing a manuscript.
4. Separate the process of tenure tracking and the absolute number of publications. While academic institutions continue to encourage research, tenure tracking should emphasize other aspects for promotion (ie, teaching).
5. Provide more public education spearheaded by credible physician leaders to better define wellness, sickness, and acceptance of physiological limitations.
6. Organize professional societies and consumers for choosing wisely campaign and reducing polypharmacy based on voluntary activity of professionalism of physicians. The choosing wisely campaign has spread over the world including Japan. The list of five recommendations has been published for enhancing value of healthcare interventions among Japanese physicians.<sup>10</sup>

#### 4 | CONCLUSION: REDEFINING THE ROLE OF PHYSICIANS AND PATIENTS

Throughout history, the medical professions have been assigned by society the critical role of trusted healers. Next to the clergy, they have consistently scored highest on the trustworthiness scale. Not only are they professionals whose role is to examine, diagnose, and treat, they are also educators, public trustees, and purveyors of a trade that cares for people at the most vulnerable moments in their lives. As practitioners of a science and art that deals with life, death, and disability, they must rise up to the level of integrity the public places in them. Unfortunately, in the age of commercialization and quick fixes, this aspect of medicine has been relegated a secondary place. While research is the force that has advanced medicine to its current state, it should always be driven by the singular goal of service to patients and society. Doctors should constantly question themselves and analyze their true motives based on principles of professionalism, so should reviewers, publishers, and regulators.

Physician leaders should assume the mantle of public guardians policing their ranks for ulterior motives. Disclosures should be full and meaningful. Our leaders should serve notice to industry that the medical profession will resist attempts to corrupt it, that doctors are proud

of their public persona, and that they will do the utmost in their power to continue to deserve the trust placed in them.

But physicians cannot do this job alone. There has to be a certain measure of responsibility by an enlightened public. Most importantly, citizens have to accept certain time-honored facts: that medicine is not a perfect science, that there are wide individual variations within the normal range, and that life is full of intermittent symptoms that do not necessitate intervention. Further “tincture of time” is essential to the healing process—quick fixes and perfect outcomes are often mirages. Medicine has served us well over the last three millennia. We live much longer and healthier lives thanks to its advances and to the men and women who have carried its flag over the ages. But it can also serve us ill if its core is diluted by irrelevance and unethical behavior. The cost of this process is enormous socially and financially.

#### CONFLICT OF INTEREST

The authors have stated explicitly that there are no conflicts of interest in connection with this article.

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